expert on that.
Q. You have a general sense that the U.S. claims are largely products liability type claims?
A. Yes, to that extent I know they would be mostly product liability claims.
Q. And that's the difference between the U.S. and the U. K. claims, correct?
A. Yes.
Q. Now, in the U. K. on products liability claims, would it be more typical for the company to have some type of defense?
A. We've received -- we've not even received many, let alone settled many. The ones we have received, we've usually had quite good evidence that the person has been exposed to one of our products. And there are a number that are still, that have been received since I went into administration but we haven't been doing any investigation since we went into administration so I couldn't say with those whether there were any out there that are capable of being defended. But, generally speaking, there's really very good evidence that there's a T&N product to which they've been exposed.
Q. When we net in New York a few months ago, you told me that you thought Chase had provided its repository of documents to pretty much anyone who wanted them I think were the words that you used.
A. That was a perception.

Q. That was your perception?
A. That was my perception. It might have been wrong but that was the perception at the time.
Q. Has it changed at all?
A. No, my perception then was that they were popping up all over the place, the documents from Chase, because you could see the Chase reel numbers on the top.
Q. Let me just ask you, if we could put Exhibit 7, Plaintiffs' Exhibit 7 on the screen.
MR. STROCHAK: I'm afraid I must have mistaken the number. I'll come back to it. I'm sorry. I apologize, your Honor.
BY MR. STROCHAK:
Q. This is Plaintiffs' Exhibit 7, if you can see it on the screen in front of you, that was introduced into evidence this morning on Mr. Hanly's testimony. And at the top, all I really wanted to call your attention to was what appeared to be numbers on the top of the first page. Is that the numbering system you were refer to that designates this as a document that came out of the Chase repository?
A. Well, that was the symbol system that Chase used, yes, it would have those figures on the top.
Q. So you recognize this marking as indicating this document likely came from the Chase repository?
A. I can't be absolutely certain about that, but that would

be what I would say, yes.
Q. Let me ask you a few questions about the publication of Mr. Tweedale's book. Was the company aware when this book was published in 2000?
A. Yes.
Q. And what was the company's reaction to the publication of the book?
A. Well, by that time we were part of Federal Mogul so they had quite an interest in it.
Q. Who's they?
A. Federal Mogul had quite an interest in it, possibly because it didn't necessarily know the history of T&N quite at that stage as they probably did later so they were quite interested. I think I had to order a lot of copies of Mr. Tweedale's book.
Q. From your perspective -- from the Turner & Newall perspective, was it a surprising publication?
A. I'm not sure what you mean by surprising. The contents or the fact it was published?
Q. Yes, did the contents take you by surprise, that is, as an employee of T&N?
A. No, not particularly.
Q. There was nothing particular in the Tweedale book that you had not seen before in any way?
A. No. No. It was just put in an easy to follow way

really.

Q. Now, when we met in March in New York, I believe you told me that the Tweedale book had no effect on litigation against T&N, is that correct?

A. In the U. K. I would say so.

Q. And you had seen everything in there before in the context of U. K. litigation?

A. Yes.

Q. And there was nothing new in the book as respects the company's ability to defend itself against claims in the U. K.?

A. No.

MR. STROCHAK: Thank you very much, Ms. Crichton. I have no further questions.

THE COURT: Any redirect?

MR. BISSELL: No, your Honor.

THE COURT: Thank you, Ms. Crichton. You're excused.

(Witness Excused.)

MR. INSELBUCH: Your Honor, I would ask Mr. Finch to call our next witness.

THE COURT: Okay.

MR. FINCH: Our next witness, your Honor, is Dr. Laura Welch.

But before we put Dr. Welch on the stand, who is the first expert witness the Court will hear from today, we would

like to offer into evidence the deposition designations and counter designations for Mr. William Hanlon. We have prepared a package for the Court that contains the deposition designations marked by each party. The plaintiffs are in blue and the defendants are in green. The entire deposition is there. The exhibits that were used in the deposition have been labeled both with his deposition exhibit number and with his trial exhibit number and there's a stipulation that these exhibits will be admissible and admitted. The exhibits are Plaintiffs' Exhibit 3, which is already in evidence. Plaintiffs' Exhibit 52, which is already in evidence. Defendant's Exhibit 75. Plaintiffs' Exhibit 47, which has not yet been offered into evidence, we would offer that at this time, your Honor. Plaintiffs' Exhibit 20 --

THE COURT: Do you have 75?

MR. FINCH: Defendant's Exhibit 75.

THE COURT: Oh.

MR. FINCH: It's defendant's Exhibit 75. Plaintiffs' Exhibit 47. Plaintiffs' Exhibit 20, which is already in evidence. Plaintiffs' Exhibit 46, which we offer at this time. And the last exhibit in the binder is defendant's Exhibit 76. We would offer that testimony at this time, your Honor. Mr. Hanlon is the lawyer for, one of the lawyers for the CCR that Mr. Hanly mentioned in his testimony and at this point.

THE COURT: Any objection to P-46 or P-47?

MR. FRIEDMAN: No, your Honor.

THE COURT: P-46 and P 47 are in evidence.

(PLAINTIFF EXHIBITS P-46 AND P-47 WERE RECEIVED IN EVIDENCE.)

THE COURT: Other than that, the other two exhibits are defense exhibits that have been marked?

MR. FINCH: Yes. We have no objection to those coming in.

MR. FRIEDMAN: I offer them into evidence, your Honor.

THE COURT: Let me make sure I have them. There's 76 --

MR. FINCH: It's 75 and 76, your Honor.

THE COURT: The defendant's 75 and 76 are now also in evidence.

(DEFENDANT EXHIBITS D-75 AND D-76 WERE RECEIVED IN EVIDENCE.)

THE COURT: There are other Hanlon deposition exhibits listed here, we are not including those at this time?

MR. FINCH: Your Honor, there are seven exhibits of the Hanlon deposition, all of them have either been previously admitted or you just admitted them.

THE COURT: 77, 78?

MR. FINCH: Those are place holder exhibits on the defendant's list which are taken up by the plaintiff's exhibits. The exhibits referred today defendant exhibit list

77, 78 were place holders that they put on there because we took Mr. Hanlon's deposition the day after the exhibit lists were due.

THE COURT: All right.

MR. FINCH: At this point, your Honor, we call Dr. Laura Welch. And we have an exhibit binder for her as well.

(LAURA STEWARD WELCH, WAS DULY SWORN AND TESTIFIED AS FOLLOWS:)

THE COURT: Have a seat.

THE WITNESS: Thank you.

(DIRECT EXAMINATION OF LAURA STEWART WELCH BY MR. FINCH:)

Q. Good afternoon, Dr. Welch.

Could you please describe for the Court your educational background?

A. Yes. I got a Bachelor's degree in biology from Swathmore College and my medical degree from the State University of New York at Stony Brook. I did a residency in internal medicine at Montefiore Hospital in the Bronx, which is part of the Albert Einstein School of Medicine. And prior to that, had faculty positions at several medical schools.

Q. Could you scoot closer to the microphone and try to keep your voice up? Bend it down to you.

A. Is that better?

Q. That's better for my purposes.

A. Okay.

Q. Are you licensed to practice medicine?
A. Yes, in the State of Maryland.
Q. When did you become licensed to practice medicine?
A. In 1981.
Q. And what is your area of expertise in medicine?
A. I'm board certified both in internal medicine and occupational medicine, and my clinical practice and work for my whole career has included both.
Q. What is occupational medicine?
A. It's a specialty that looks at the relationship between work and illness or even more broadly between work and health. So it's whether people who have certain diseases can do particular jobs and whether some jobs cause certain diseases, as well as exposure to environment, same relationship.
Q. What did you have to do to become board certified in occupational medicine?
A. Well, what I did was there were two -- a couple of different pathways depending when you graduated medical school. And because I was board certified in internal medicine, then I did advanced training public health. I had six years experience in the field and was permitted by the board to sit for the examination, which I took and passed.
Q. When did -- what did you do to become board certified in internal medicine?
A. That was only one pathway to that, and that is to take an

approved residency program, which is a three-year inpatient and outpatient combination training, which I did at Montefiore, New York, and take an examination to become board certified.

Q. When did you obtain your board certifications?

A. Internal medicine, it was 1981. Occupational medicine it was 1990.

Q. What is epidemiology?

A. It's the study of patterns of disease in people.

Q. Could you describe to the judge what training you have had in epidemiology?

A. Well, everyone who goes through medical training gets some training in epidemiology in medical school. And then in addition, I had advanced training at the Columbia School of Public Health in epidemiology, that was part of the board certification in occupational medicine.

Q. Could you slowly describe what use you have made in epidemiology in the course of your career?

A. Well, since I finished my residency up until about two years ago, I was on the faculty of a medical school, I still actually have adjunct position, but was full-time faculty up to that time. And a substantial part of my practice was research in occupational health and a large proportion of that was epidemiology, the way we understand whether exposures at work or in the environment cause diseases by looking at the

sort of natural experiment of people who are exposed to that and comparing those diseases that we see in exposed groups to unexposed groups, and that's really a very simple explanation of what epidemiology is. And I've done a number of epidemiologic studies looking at other ranges of toxins in my career.

Q. Including asbestos?

A. Including asbestos.

Q. Since graduating from medical school, could you give the Court a brief run-down of what your professional experience has been?

A. Yeah. After I finished medical school and my residency at Einstein, I took a position on the faculty at Einstein and at the staff of Montefiore Hospital in the Bronx, I was there for about 18 months. And then I had a position at Yale University School of Medicine. And then in 1985 I moved to Washington, D.C. to take a position at George Washington University. I stayed there on the full-time faculty till '97 when I then moved to position at Washington Hospital Center, which is a largest teaching hospital in D.C. and kept my faculty appoint at GW. And, as I mentioned, about two years ago I changed careers a little bit and took a job that's focusing solely on research in the area of occupational health.

Q. In your professional career, Dr. Welch, when was the

first time you had any involvement in the diagnosis and treatment of asbestos-related diseases?

A. It was during my residency, so probably around 1980.

Q. And can you describe to the Court what your involvement has been with patients who suffer from asbestos-related diseases since that time?

A. It's been a big part of my clinical practice and also a big part of my research. When I was in New Haven, which was in the early '80's, I saw a number of people with asbestos-related disease from the construction trades in New Haven, and also I ran satellite medical facility for Yale in New London where we saw people who worked the Groten Shipyard. And since that time both at Yale and GW and at the Hospital Center, I had a clinical practice where a good number of the people in my practice were people exposed to asbestos coming to me to see whether they had any disease from that asbestos exposure and what to do about it.

Q. What types of asbestos diseases in patients did you see and treat?

A. A good number of people with asbestosis and like other asbestosis relate pleural plaque, which is the other non-malignant manifestation with asbestos disease. I did see a number of people with mesothelioma and some people with lung cancer or colon cancer related to asbestos.

Q. As part of what you did as an occupational medical

doctor, did you have to read and interpret X-rays for purposes of diagnosing asbestos-related diseases?

A. Yes.

Q. And would that include asbestosis and the other non-malignant diseases?

A. Yes.

Q. Are you a -- first of all, can you tell the Court what is a B Reader?

A. A B Reader, that's a designation given by NIOSH, the National Institute of Occupational Safety and Health, for people who have passed a test that NIOSH gives. And the test is for proficiency in the use of the International Labor Organization classification of pneumoconiosis. Anybody in the room who can say that gets a prize. But the ILO set up this system to standardize reading of x-rays for dust diseases in the 1970s and NIOSH uses a certification. A lot of the other countries don't have a certification but NIOSH has a certification test to demonstrate that you can use the system, the classification system and have certain proficiency to match the correct x-ray with the correct answer.

Q. What does what one to do to become a B Reader?

A. You have to go take at the test. And most people who go take it Morgantown, West Virginia to take it, although it's occasionally given in conjunction with a NIOSH course around the country.

Q. Are you a B Reader?
A. No, I'm not.
Q. Why not?
A. Well, in the early '80's I took the course and took the test and I didn't pass it. And then I basically came to realize I didn't need it as part of my practice, I could use the x-rays, interpret the x-rays based on the knowledge and experience I had and put that in the diagnosis without doing the radiologic diagnosis.
Q. As part of your clinical practice in occupational medicine, did you have to read and interpret pulmonary function tests?
A. Yes, on a regular basis.
Q. And could you describe to the Court how that process, the pulmonary function test process works?
A. Well, there's really two ways in which pulmonary function tests get done. One is called the simple spirometer, which is done in a physician's office generally or can be done in a mobile unit at a workplace, if necessary. And then there's more extensive testing that's done in a hospital laboratory called total lung capacity and diffusion capacity, which measure -- they measure lung function, they measure different aspects of it. The tests are usually complimentary to each other. And I was trained how to interpret those tests in medical school and worked, when I was in the hospitals, worked

closely with the pulmonary physicians to expand my knowledge of that.

Q. Could you describe for the Court the teaching appointments that you've had?

A. I was -- I had a faculty appointment at Einstein, at Yale, and at George Washington University, as well as teaching appointments at those hospitals. So medical staff at Yale, New Haven Hospital, George Washington University, and then Washington Hospital Center.

Q. And have you received any grants from the government concerning asbestos disease specifically?

A. Yes, I have.

Q. Can you describe to the Court what those are?

A. Yes. I had a grant from NIOSH, the National Institute, to look at causes of death related to asbestos among sheetmetal workers. And I've had a series of grants from the Department of Energy to look for asbestos disease and other occupational diseases among construction workers who worked a the DEO Atomic Weapons Complex.

Q. Have your sheetmetal worker studies continued up until the present time?

A. Yes.

Q. And have you published articles in peer reviewed medical journals concerning asbestos-related diseases?

A. Yes.

Q. And have you published articles relating to the phenomenon of B Reader intervariability?
A. Yes, I have.
Q. And can you describe for the Court what that is?
A. I mentioned the B Reader system is an examination system that is intended to bring people's interpretation of x-rays closer together to met a certain standard. But even for people who have been trained in the use of the system and passed the test, there is a lot of variation between how the same reader interprets the same x-ray again over time with repetitive reading, which is called intra-reader variability and between different readers looking at the same x-ray, which is inter-reader variability. The system -- like I said, the system, the ILO system was designed to reduce that variability but there's still a substantial amount between readers.
Q. We'll get to the concept later when we start delving into your expert opinions. But just to go on laying the groundwork for your qualifications, can you describe the peer review medical journals in which you've publish papers relating to asbestos-related disease and the diagnosis thereof?
A. In the journal called Chest. The American Journal of Industrial Medicine. I think the Journal of Occupational Environmental medicine as well.
Q. Have you ever published or written any chapters or textbooks or books relating to asbestos disease?

A. Yes, I have.
Q. And what would that be?
A. There's a -- there's a book called Rosenstock and Cullen, Clinical Occupational Medicine, Hazardous Material Medical Toxicology by Sullivan and Kreiger, and then there's a family medicine text Principals of Ambulatory Medicine, I have chapters in those that have been updated several times over a number of years.
Q. Have you ever served a peer reviewer for any medical journal?
A. Yes, I do, for a number of years in occupational medicine.
Q. Is asbestos something of special interest to you in terms of your professional career in occupational medicine?
A. Yes, it is.
Q. And how long has this been something of interest for you?
A. I guess it's got to be 25 years now.
Q. Approximately how many patients with asbestos-related diseases have you seen and treated over the course of your career?
A. Well, it's probably hard for me to give a good number to that, but it's definitely in the hundreds, could be 1,000 people.
Q. Have you ever given professional presentations to other medical doctors regarding asbestos disease in the past?

A. Yes, I do that on a regular basis.
Q. Have you ever been recognized by a court as an expert in the diagnosis of asbestos-related diseases?
A. A number of times, yes.
Q. Have you ever been recognized as an expert in epidemiology issues related to asbestos diseases?
A. Yes, I have.
Q. Have you ever been asked to testify before the United States Congress on matters relating to diagnosis of asbestos-related diseases?
A. Yes, I have.
Q. Can you describe that for us?
A. Yes, I testified on two occasions related to a Senate bill that was voted out of the judiciary committee recently to establish national asbestos trust fund for asbestos-related diseases.
Q. And what were the subject matters of your testimony before the United States Congress?
A. It was really about the nature of the asbestos-related disease, some of the same questions that we'll be talking about here today, which is what disease is related to asbestos, how can you tell that they're related, how much functional impairment is necessary, how much asbestos is needed to cause cancer. Because the purpose of the bill was to establish a trust fund, establish the amount of money that

was necessary and establish the medical criteria for compensation.

Q. Could you turn in the witness binder on your ledge there to Plaintiffs' Exhibit 23, Dr. Welch?

A. Yes, I have it.

Q. Is Plaintiffs' Exhibit 23 a current copy of your curriculum vitae?

A. Yes, it is.

MR. FINCH: Your Honor, at this time, plaintiff would offer Exhibit 23 into evidence.

MR. FRIEDMAN: No objection, your Honor.

THE COURT: 23 is in evidence.

(PLAINTIFF EXHIBIT P-23 WAS RECEIVED IN EVIDENCE.)

MR. FINCH: Your Honor, at this point, I would proffer Dr. Laura Welch as an expert in internal medicine, occupational medicine with an expertise in asbestos-related diseases and the epidemiology of asbestos-related diseases.

THE COURT: Any question on qualification?

MR. FRIEDMAN: Not on those issues, your Honor.

THE COURT: All right. We certainly find the expert qualified to proceed.

MR. FINCH: Thank you, your Honor.

BY MR. FINCH:

Q. Dr. Welch, can you describe generally the nature of the services that you have provided to the Asbestos Claimants

Committee in the Federal Mogul bankruptcy case?
A. Yes. Generally I've provided my opinion on certain aspects of asbestos-related disease and produced a report with those opinions.
Q. Let's go to the substance of your opinions.
Dr. Welch, what cancers are caused by exposure to asbestos?
A. Mesothelioma. Lung cancer. Colon cancer. Laryngeal and pharyngeal cancer.
Q. What non-malignant diseases are caused by asbestos exposure?
A. Asbestosis, asbestos-related pleural plaques, and to some degree of obstructive lung disease.
Q. There's been quite an amount of discussion of asbestosis, can you give the technical medical definition of asbestosis?
A. Well, it's lung fibrosis that's caused by asbestos.
Q. Could you turn in your book to Exhibit 28, Plaintiffs' Exhibit 28?
A. I have that.
Q. Do you recognize Plaintiffs' Exhibit 28?
A. Yes, it's a section from the American Medical Association, the Guide to the Evaluation of Permanent Impairment, Fifth Edition.
Q. What's the AMA definition of impairment that's found at Page 2 of the document?

A. Impairment is, I quote from here, a loss of use or derangement of any body part, organ system, or organ function.
Q. Is a pleural plaque an impairment by that definition?
A. Yes, it is.
Q. Is there -- let me back up.
Do you have an opinion to a reasonable degree of medical certainty as to whether someone can have suffered an actual decline in their own lung function as a result of asbestosis or another a disease yet have pulmonary function test that falls within the normal range?
A. Yes, I have an opinion and, yes, it is that someone can have a decline even though they're pulmonary function is within the population normal range.
Q. Can you explain why you hold the opinion that someone can have actually suffered a declined in lung function even though their pulmonary function test score results fall within the population normal range?
A. Yes. The normal range that we use for pulmonary function testing, there are a set of different predictives, what we call predictives, and they vary very little. They're pretty much based by testing people who are not known to have lung disease and creating a range of normal and that range is fairly big. If it's. Let's say my normal is 100 percent, the best estimate of what 100 percent would be for me ranges between 80 and 120 percent of that normal. So I could lose --

if I started at a high normal -- if my normal was really higher than the average for the population, I could lose easily 20 percent of my lung function before I dropped below 80 percent of the population predictive, because the population predictive is really an average across a whole range of people. And people are different, people have different body types primarily, and so even though the predictives are adjusted based on age, height, and sex, there's still a lot of variation in the normal between people. We know that from circumstances where we're able to measure people periodically. Over a period of time, there is some information on loss of lungs function, and that's how we know what happens with aging, and people can lose, as I said 20 percent, maybe more, and still be within the normal range on a population basis.

Q. You gave an example of someone who starts out above the normal range, if 100 is defined as the normal. What about someone who goes from say 95 to 85, would they have suffered a decline in lung function?

A. Yes.

Q. And where would they score on a pulmonary function test?

A. They're still normal. We use 80 percent as the cutoff between normal and abnormal. There's a more precise measure, lower limits of normal, generally it's about 80 percent of predictive. You can lose lung function anywhere down to that

80 percent before you're called abnormal unless we have had the opportunity to measure you over time.

Q. Do you have an opinion to a reasonable degree of medical certainty as to whether functional impairment is required to diagnosis someone with an asbestos-related non-malignant disease such as asbestosis?

A. No, it's not required. The diagnosis is based on history of exposure and appropriate changes in the lung measured either with pathology or using more with radiology. And the American Thoracic Society has a statement about the diagnosis of asbestosis and states clearly that functional impairment is not necessary for that diagnosis.

Q. Could you turn in your book to Plaintiffs' Exhibit 25.

A. Yes.

Q. Is that the American Thoracic Society statement you were referring to earlier?

A. Yes, it is.

MR. FINCH: Your Honor, at this point we would offer the 2004 ATS statement, Plaintiffs' Exhibit 25. This is one of the exhibits that we agreed could come in during the cross-examination of Dr. Weill as well. So we're offering it both for purposes to use with Dr. Welch and also in our cross-examination of Dr. Weill who is not here. His testimony is offered and it was offered in the Owens Corning case, and is part of the agreement because he's been in a car wreck, we

offered certain documents that we would use on direct and cross along with his report in Federal Mogul, Plaintiffs' Exhibit 25 is one of those documents.

MR. FRIEDMAN: Mr. Finch has accurately recounted our agreement and we have no objection to these document being introduced.

THE COURT: Then P-25 is in evidence.

(PLAINTIFF EXHIBIT P-25 WAS RECEIVED IN EVIDENCE).

BY MR. FINCH:

Q. Dr. Welch, do you regard the 2004 American Thoracic Society statement as authoritative?

A. Yes, I do.

Q. Can you describe to the Court how this statement was promulgated? Well, first of all, back up. What is the American Thoracic Society?

A. It's a professional society of people interested in and trained in pulmonary medicine, lung disease.

Q. And could you describe to the Court your understanding of how this official statement was promulgated?

A. The American Thoracic Society has several different kinds of documents they produce and they have a set process that they follow for each one. This one is a diagnosis consensus statement, which essentially means that they gather together a group of experts, come up with a document, sent it through a peer review process, and through approval through the

organization of the ATS before publication.
Q. Focusing your attention on the first page of Plaintiffs' Exhibit 25 on the bottom right hand corner, is this the basis or part of the basis for your view that functional impairment is not necessary for the diagnosis of a nonmalignant asbestos-related disease?
A. That's correct.
Q. Could you just read that into the record.
A. There is the one sentence at the bottom that's follows the criteria. It says: Demonstration of functional impairment is not required for the diagnosis of nonmalignant asbestos-related disease.
Q. Was there a predecessor to the 2004 ATS statement on the diagnosis of asbestos-related nonmalignant diseases?
A. There was previously a document published bite ATS in 1986.
Q. Could you turn in your book to Plaintiffs' Exhibit 26.
A. And that is that document.

MR. FINCH: Your Honor, at this time we'd offer Plaintiffs' Exhibit 26. Again, this is one of the documents we used with Dr. Weill.

MR. FRIEDMAN: Without objection, your Honor.

THE COURT: P-26 in evidence.

(PLAINTIFF EXHIBIT P-26 WAS RECEIVED IN EVIDENCE).

BY MR. FINCH:

Q. And this statement also states that functional impairment is not required to diagnose a nonmalignant disease?

A. That's correct.

Q. You mentioned in your answer to my question earlier something called the ILO scale. Could you briefly describe for the Court how the ILO scale works?

A. Um-hum. The ILO scale is a descriptive language, kind of shorthand way of describing what one sees on an x-ray and it classifies the x-ray by its -- the type of markings and what's call profusion, which is the density of markings. The type of markings are given letters, and then the profusion, which is what people tend to focus on when they're describing the extent of scarring, the profusion goes from zero, which is normal, to one, two, three. And three is more severe than two, two is more severe than one. When a reader uses that classification, they take the x-ray of the individual and put it up next to the standard film, next to the one film or the zero film, the one film, two film, to decide where it goes and then describes the film as 1/1, 1/2. Where the first number is the number that they're classifying, they're classifying it as at 1, 2, 3; 0, 1, 2, 3. The second number is a way of saying I considered this other classification. So if one says zero, the reader is saying it's an abnormal x-ray, but they considered it normal. 1/2 is a Category 1 x-ray, which they considered calling a Category 2. So, it's a very descriptive